



State Revolving Fund Loan Program

an Indiana Finance Authority Environmental Program

100 North Senate Avenue, Room 1275
Indianapolis, Indiana 46204
www.srf.in.gov

MEMORANDUM

TO: Official Loan File

FROM: Amanda Rickard

DATE: November 19, 2012

RE: Green Project Reserve (GPR) Categorical Exclusion and Business Case
Greentown WWTP Improvements
SRF Project WW 12 34 05 01

The Town of Greentown proposes improvements to its wastewater treatment plant (WWTP) consisting of a new influent sewer, new influent structure with raw sewage pumping and screening, new raw sewage force main, improvements to the existing surge tank and oxidation ditch, new flow splitter box, two new secondary clarifiers, new RAS/WAS pump station, new alum storage and feed and electrical building, new primary digesters with sludge transfer pumps, new digester blowers, new solids handling system, new liquid sludge loading station, new UV disinfection system with post aeration, improvements to the polishing ponds and control structure, new plant effluent and headwall, yard piping, and site work.

Components of this project are considered to be green under four GPR categories, as outlined below.

The green infrastructure components are the rain gardens and riparian buffer establishment.

The rain gardens will collect precipitation from the parking area and paved drive areas. Rain gardens are considered categorical under 1.2-2. A permanent riparian buffer/green space will be established with native vegetation to minimize surface run-off impacts. The riparian buffer is considered categorical under 1.2-7.

The water efficiency components are the low-flow faucets and fixtures. Low-flow faucets and other water efficient fixtures will be specified for all new applications, and existing fixtures will be retro-fitted with low-flow devices to reduce water use. This work is considered categorical under 2.2-1.

The environmentally innovative component is use of recycled materials. Ductile iron pipe will be used extensively for the pipe work in the WWTP project. Over 90% of the raw material used for the manufacture of ductile iron is recycled material. The business case developed by Wessler Engineering was reviewed and found to meet the GPR requirements for the environmentally innovative category.



The energy efficiency components are the LED, high output, and glass block lighting; VFDs for raw sewage pumps and blowers; and oxidation ditch aeration and mixing controls.

Optimizing natural lighting, and using LED bulbs and high output outdoor lighting will reduce energy consumption. Utilizing VFDs allow motors to operate proportional to the amount of work required, which reduces the actual energy consumed. The project includes upgrading the existing large brush rotors in the oxidation ditch to fine bubble forced aeration and separate mechanical mixing. Dissolved Oxygen will be continuously monitored so aeration supply can be adjusted to meet the actual demands of the system. These aeration and mixing projects minimize the amount of energy required to treat the wastewater. The business case developed by Wessler Engineering was reviewed and found to meet the GPR requirements for the energy efficiency category.

The total GPR cost is \$604,600. Of this, the construction cost based on bids is \$586,600 and engineering cost is estimated at \$18,000.

Greentown plans on closing an SRF loan in the approximate amount of \$6,753,000 in December 2012.